OCEAN STEWARDS
INSTITUTE

May 12, 2014

To: Office of Management and Budget
Office of Information and Regulatory Affairs

The Ocean Stewards would like to provide the following perspectives and suggested revisions to the Gulf of Mexico Fisheries Management Pan for Aquaculture that is presently under consideration.

As the open ocean aquaculture trade association, our highest priority is to see this Plan in place, and to see open-ocean net pens operating in the Gulf of Mexico. We want to underscore that this is not an abstract proposition: our members, and others in our community, are ready to begin the process of applying for permits, and are eager to begin founding farms offshore. We are ready to start building an industry that yields healthful products, provides meaningful "green-collar" jobs, and does so in an environmentally sound manner. Many of our members – both individuals and corporations - were formerly US-based, but over the years have had to relocate to Latin America or elsewhere, where there exist suitable regulatory frameworks for aquaculture development. This drain on US investment, technology and manpower must be reversed. The first step in this direction is to proceed expeditiously with the approval of these proposed rules for aquaculture in the Gulf of Mexico.

We would also like to underscore that while some anti-aquaculture activists may portray this industry as polluting or irresponsible, it is nothing of the sort. To the contrary, we are proud of the sustainable, responsible, soft 'fish-print' of our operations. Aquaculture has been subjected to a smear campaign that is both morally reprehensible and scientifically unfounded, and this misinformation should not hinder approval of these rules. Dissuading Americans from eating healthful seafood by instilling in them misplaced fears of mercury or PCBs results in more Americans dying from heart disease (Mozzafarian and Rimm, 2006). Conservation International (Blue Frontiers, 2013) has concluded, on the basis of a full Life-Cycle Analysis, that aquaculture is the least impactful of all animal protein production systems. This image below (Figure 1) shows an open ocean net pen being used to raise around 70,000 kampachi (*Seriola rivoliana*), with no discernible impact on water quality. Figure 2 shows a submerged buoy, located some 15 m down current of an open ocean net pen, which is covered with prolific coral growth. Coral is known to be highly sensitive to water quality perturbances. These images visually demonstrate the compelling conclusion reached from extensive data analysis – that so long as net pens are located in sufficiently deep water, with reasonable current movements (such as would be found in any open ocean net pen site in the Gulf of Mexico) there is no significant impact on water quality (Price and Morris, 2014).

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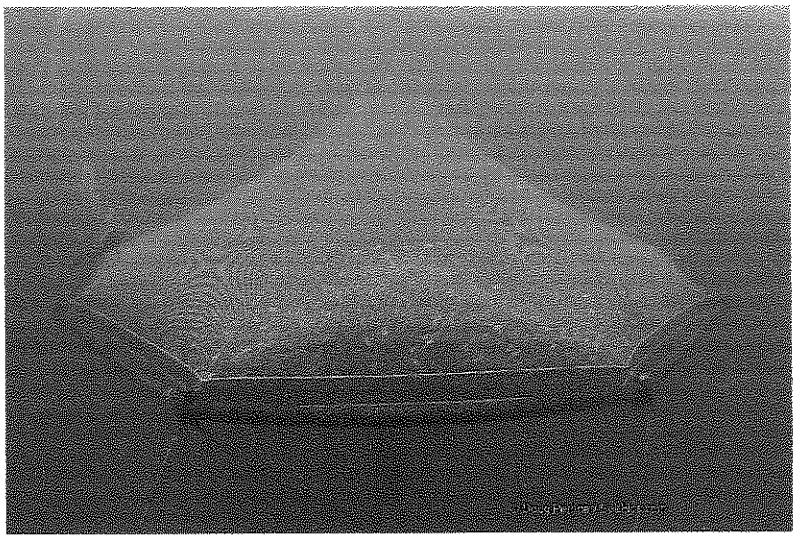

Figure 1: A submerged Sea Station™ net pen, containing some 70,000 juvenile Kampachi (*Seriola rivoliana*).

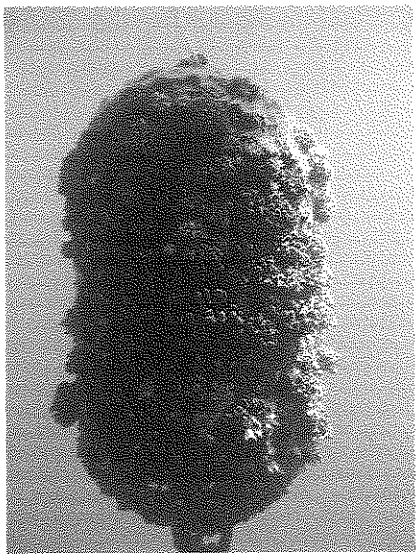

Figure 2: A submerged steel buoy a mere 15 m downcurrent of a Sea Station™ net pen, containing some 70,000 juvenile Kampachi (*Seriola rivoliana*), is covered with profuse coral growth, indicating excellent water quality.

Given that the US currently imports around 85% of our seafood (a situation that contributes to an annual seafood trade deficit in excess of $10B), and that approximately half of that seafood is farmed, there are no sound fiscal, environmental, or moral reasons to delay setting up an industry in the Gulf of Mexico, and eventually in all US Federal waters.

Given the above, and given that this Plan has been in gestation at NOAA for nigh on five years, we would earnestly ask that approval of these rules not be any further delayed. However, in the interests of providing a practical, functioning framework for this fledgling industry, we would also ask that the following amendments also be considered:

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1. The limitation on the size of farms represents a serious disincentive to investment. We would be pleased to share with you the details of model business plans, so that you can understand the imperative of scale in this industry. For example, a model for kampachi production, based on Mexican labor rates, that scales to around 9,000 tons/year over 10 years, generates a modest internal rate of return (IRR) of around 26% (i.e. modest, given the inherent risks involved in such a capital intensive industry that is reliant on a living product grown far offshore). Any reduced IRR would be concomitantly less attractive to an investor, and so any shorter time period for permits, or any smaller scale of production markedly reduces the ability for this industry to attract the necessary capital. It is therefore imperative that the cap on production for each permit be removed, or increased to at least 20 million pounds.

2. Similarly, the time period for permit renewals should be extended to at least 10 years (or removed altogether; there is no sound rationale for a time limit on permit renewals, if the permitee continues to abide by the permit conditions).

3. The notion of regulating broodstock genetics is about as silly as the notion of restricting sheep or cow ranchers to the genetics of the local populations of the species in their area. Selective breeding should be encouraged, as it will improve production efficiencies, and will render any escapees far less fit for survival in the wild. Domesticated species usually end up as fat, slow, docile and tasty. It is best if a farmer can achieve these character traits rapidly.

4. There is no clear basis for the explicit exclusion of recreational fishing from within an aquaculture permit area. This unnecessary stipulation will create universal opposition to aquaculture from the fishing sector. Instead, permit applicants should be encouraged – on a case-by-case basis - to seek some common ground, or to craft some compromise with the fishing sector, within the operational constraints of their own production system. For example, recreational, charter-boat and small-scale commercial fishermen gain greatly from the Fish Aggregating Device (FAD) effects of the experimental net pen located 6 Nm offshore of the coast in Kona, Hawaii (see Figure 3).

Figure 3: Small scale commercial fishermen, recreational fishermen and charter-boats trolling and deep-water fishing for tuna and other pelagic species around the feed barge (on the left hand side) of the open ocean aquaculture "Velella Project.

5. Similarly, there is no sound rationale for the unswerving exclusion of aquaculture from Marine Protected Areas (MPAs). There are many diverse forms of MPAs, with a range of purposes. Some are designed to protect an area in its near-pristine state, and clearly aquaculture is incompatible with this purpose. However,

MPAs may also be designed for fish replenishment, or to protect a single species, such as the Hawaii Islands Humpback Whale National Marine Sanctuary (HIHWNMS). In the former instance, the FAD effects of aquaculture arrays can be highly beneficial, providing a refuge for the larger, wild fish that are important for breeding (see Figure 4). In the latter instance, a pioneering open ocean net pen operation has co-existed inside the HIHWNMS for almost 10 years, with no negative interaction with the humpback whales.

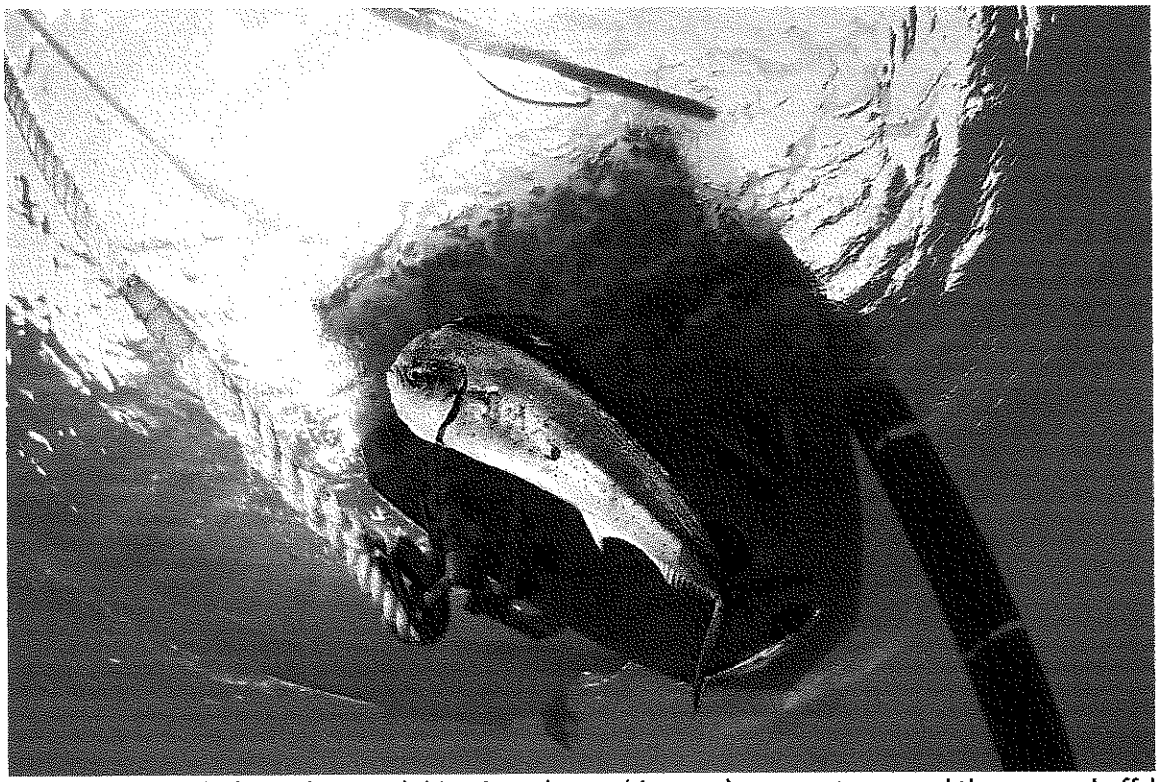
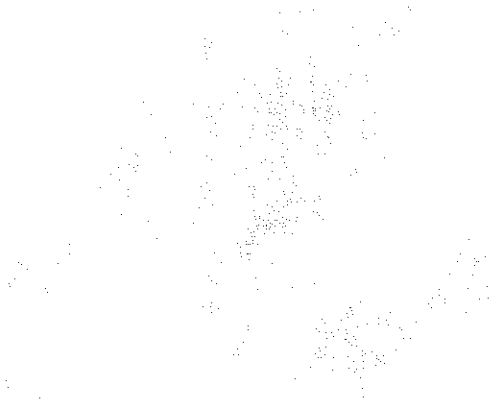


Figure 4: Wild Mahimahi (Dorado or Dolphin, *Coryphaena hippurus*) aggregate around the moored offshore aquaculture array operated by Kampachi Farms, off Kona, Hawaii

6. The requirement that all components of a facility be removed in the case of any reportable communicable disease (as in the OIE or National Aquatic Animal Health Plan) represents denial of due process, and could disincentivize the prompt reporting of any potential infection. This is akin to compelling a farmer on land to remove his house, barn and fences from the land if he ever has a reportable disease in his livestock. Instead, a farmer on land may be asked to remove the livestock and fallow the land for some period; the same should hold true for aquaculture in the ocean.

7. The blanket ban on all genetically modified organisms (GMOs) also runs counter to common sense, given the imperative for sustainable scale-up of this industry, and the need to draw on other sources of proteins and oils, beyond fishmeal and fish oil derived from wild forage fish. Agricultural proteins and oils, such as soy, offer great potential for alleviating this reliance on sardines, anchovetta and their like, and the inclusion of agricultural products in fish feed formulations should be encouraged, not proscribed. The definition of GMOs should also be confined to transgenes (exchange of genetic material between species), as the ability to remove a single gene from a chromosome, or to insert replicates of the same gene could be very useful (producing, for example, farmed fish that are genetically sterile – and therefore unable to breed with wild fish - or fish that grow more quickly and use their feed resources more efficiently). Such same-species



manipulations are more akin to that which can be created by selective breeding, and they again should be encouraged, rather than abjured.

We greatly appreciate your consideration of these comments, and your prompt processing of this Plan, to allow this industry to move forward.

Thank you in anticipation, and aloha,

Neil Anthony Sims
Founding President
The Ocean Stewards Institute

Citations:

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We are ***The Ocean Stewards***

The Ocean Stewards Institute is a trade organization advocating for the emerging open ocean aquaculture industry. Members include open ocean aquaculture, seafood trade and supporting industries. Affiliate membership is offered to interested individuals and parties in government agencies, academia, NGOs and the media.

Our Mission:

To represent and work towards the best use and management of the open oceans, meeting the increasing demand for healthful seafood, through appropriate balancing of the expansion of environmentally sound open ocean aquaculture, with protection of open ocean resources and habitats.

World Capture Fisheries and Aquaculture Production

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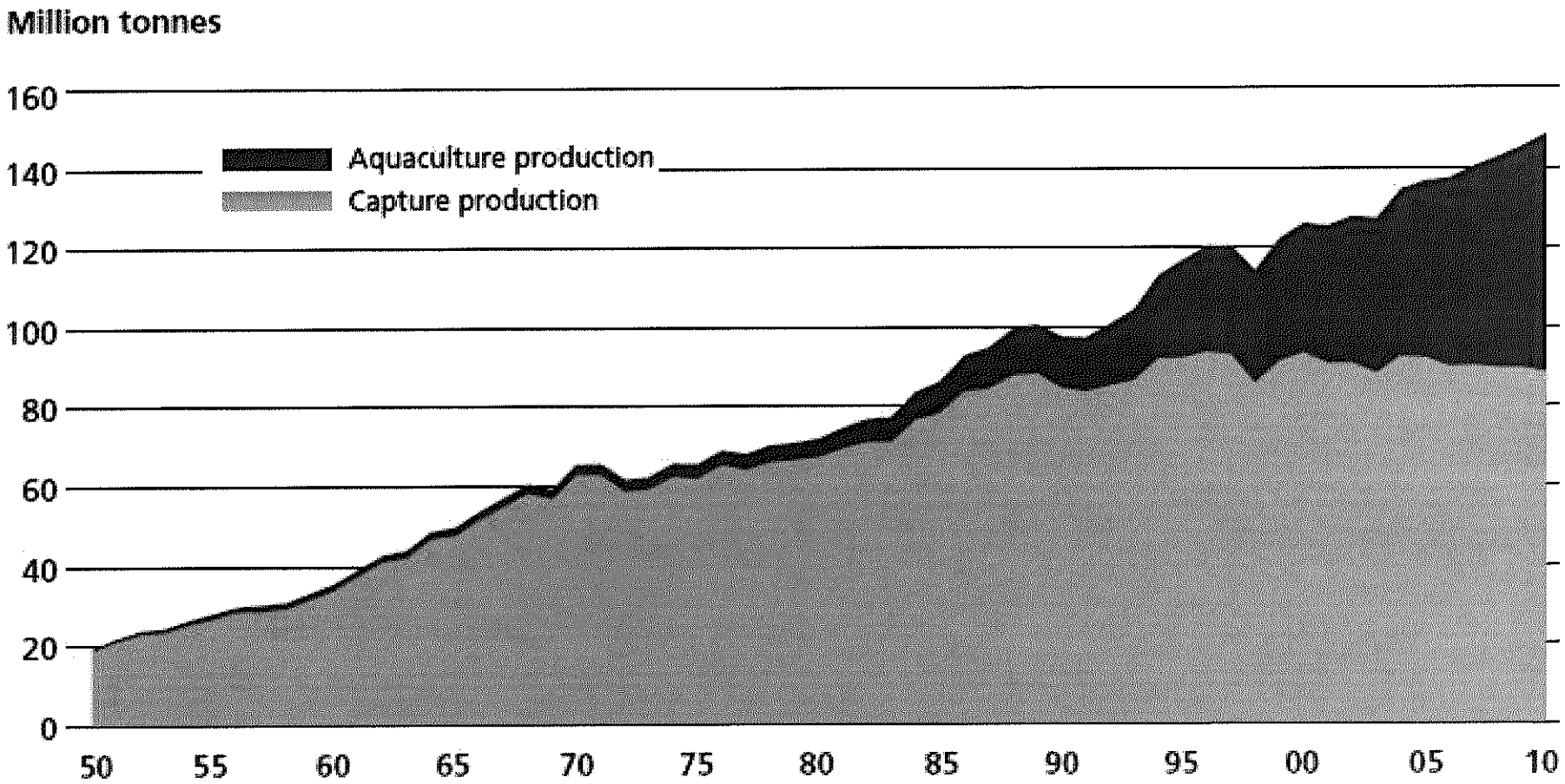
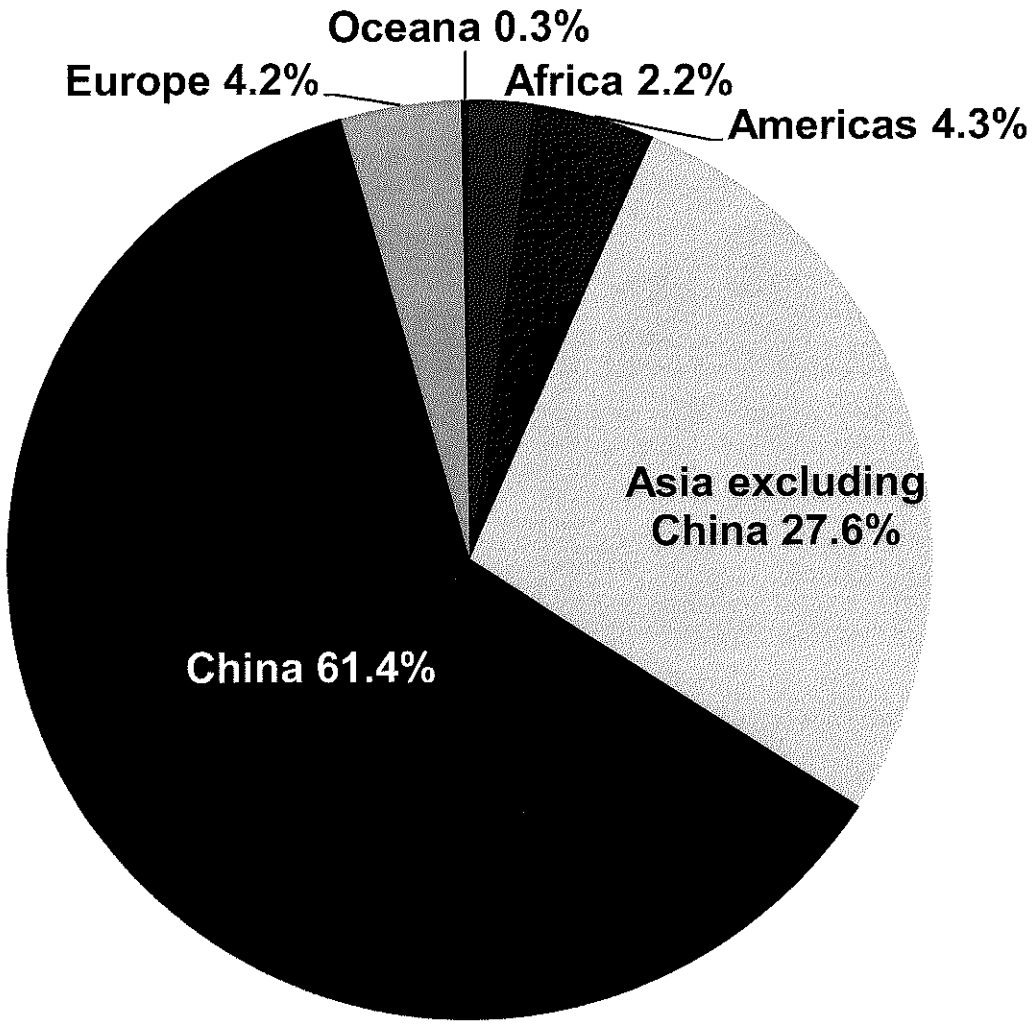


Aquaculture Production by Region



- Africa 2.2%
- Americas 4.3%
- Asia Excluding China 27.6%
- China 61.4%
- Europe 4.2%
- Oceana 0.3%

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The US Government wants the citizens to eat more seafood, and less red meat.

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